Appl. No.

:

10/618,544

Filed

July 11, 2003

AMENDMENTS TO THE CLAIMS

Please cancel Claims 16-21 without prejudice.

Please amend Claims 1 and 4-15 as follows.

Please add Claims 22 and 23 as follows.

1. (Currently amended) An organic thin film transistor (OTFT), comprising:

a substrate (1);

a gate electrode (2) formed on the substrate (1);

a gate insulation layer formed on the gate electrode;

a source electrode (5) and a drain electrode (6) formed on the gate insulation layer including a first insulation layer (3) and a second insulation layer (4) with different dielectric constants, wherein the first insulation layer and the substrate make contact, and the region comprising the source electrode and the drain electrode is separated from the first insulation layer by the second insulation layer; and

an <u>aetiveorganic semiconductor</u> layer (7) which overlays the source electrode (5) and the drain electrode (6).

- 2. (Original) The organic thin film transistor according to claim 1, wherein the dielectric constant of the first insulation layer (3) is higher than that of the second insulation layer (4).
- 3. (Original) The organic thin film transistor according to claim 2, wherein the dielectric constant of the first insulation layer (3) is at least three times higher than that of the second insulation layer (4).
- 4. (Currently amended) The organic thin film transistor according to claim 1, wherein the said-first insulation layer (3) is made of selected from a group consisting of organic, inorganic or and ferroelectric material.

Appl. No. : 10/618,544 Filed : July 11, 2003

- 5. (Currently amended) The organic thin film transistor according to claim 4, wherein the said-organic material is polyvinylidene fluoride.
- 6. (Currently amended) The organic thin film transistor according to claim 4, wherein the said-inorganic material is a metal oxide selected from a group consisting of Ta₂O₅, Al²O₃ and TiO₂.
- 7. (Currently amended) The organic thin film transistor according to claim 4, wherein the said-ferroelectric material is barium titanate.
- 8. (Currently amended) The organic thin film transistor according to claim 4, wherein the said-second insulation layer (4) is made of organic polymer material or inorganic material.
- 9. (Currently amended) The organic thin film transistor according to claim 8, wherein the said-organic polymer material is poly(methyl methacrylate), polyimide or epoxide resin.
- 10. (Currently amended) The organic thin film transistor according to claim 8, wherein the said-inorganic material is SiO₂ or SiN_x.
- 11. (Currently amended) The organic thin film transistor according to claim 1, wherein the said-organic semiconductor layer (7) is made of N-type or P-type semiconductor material.
- 12. (Currently amended) The organic thin film transistor according to claim 11, wherein the said-N-type semiconductor material is selected from a group consisting of F₁₆CuPc, F₁₆CrPc, F₁₆ZnPc, F₁₆H₂PC, the mixtures thereof, and the eutectics thereof.

Appl. No. : 10/618,544
Filed : July 11, 2003

13. (Currently amended) The organic thin film transistor according to claim 11, wherein the said-P-type semiconductor material is selected from a group consisting of CuPc, NiPc, ZnPc, H₂Pc, the mixtures thereof, and the eutectics thereof.

- 14. (Currently amended) The organic thin film transistor according to claim 1, wherein the said-organic semiconductor layer (7) is made of a polymer material.
- 15. (Currently amended) The organic thin film transistor according to claim 14, wherein the said-polymer material is polythiophene.

16-21. (Cancelled)

- 22. (New) The organic thin film transistor according to claim 1, wherein the substrate is a glass substrate.
- 23. (New) The organic thin film transistor according to claim 1, wherein the substrate is a flexible plastic substrate.